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PHOTOGRAPHIC INTELLIGENCE REPORT

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NITROGEN PRODUCTS PLANT

RUSTAVI, USSR

[redacted]

25X1

20 February 1958
RR-GP/DP-2-58

CENTRAL INTELLIGENCE AGENCY

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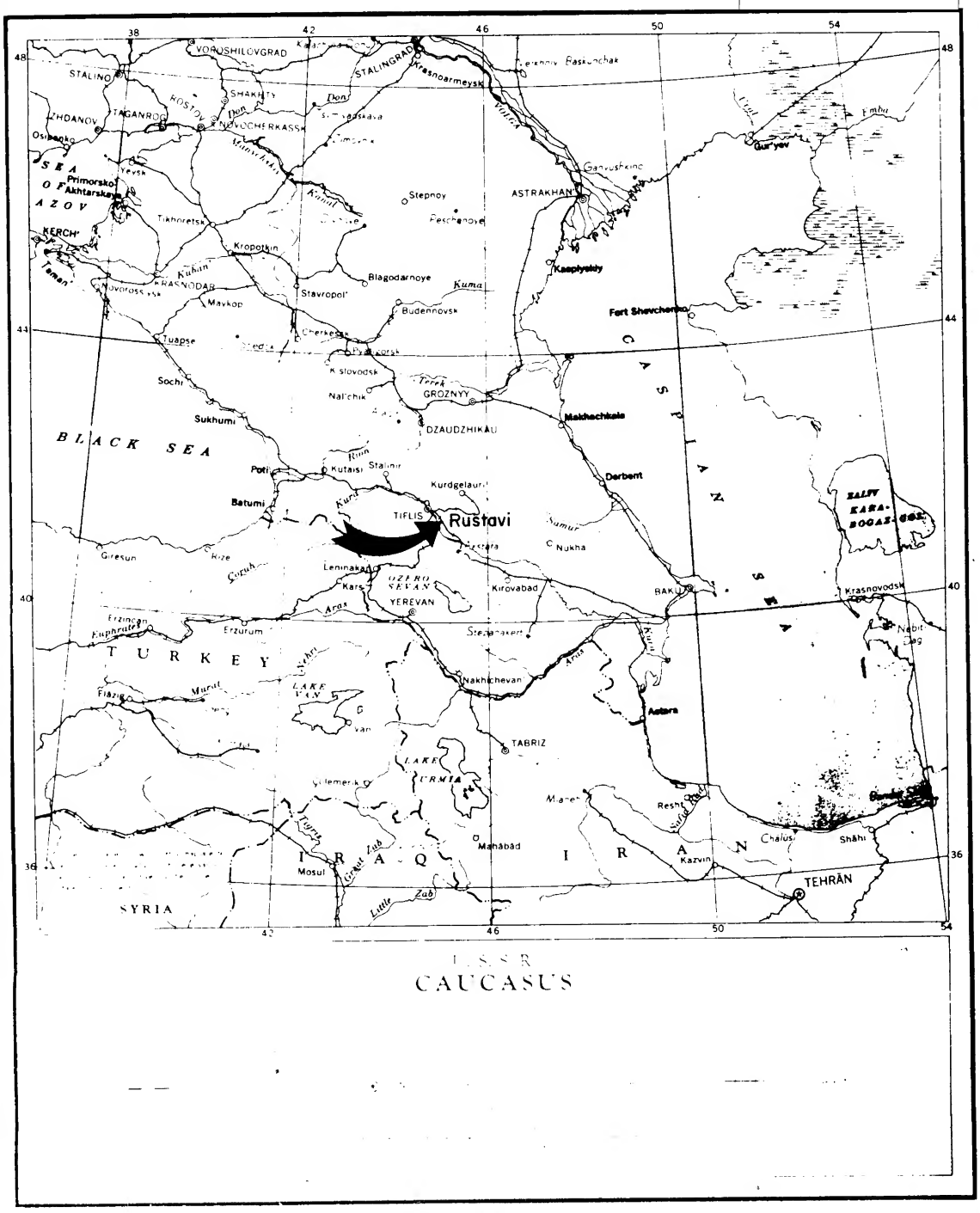

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PREFACE

This analysis of the Rustavi Nitrogen Products Plant is based on small format photography [redacted] 25X1

[redacted] and has been prepared by the Photo Intelligence Division of ORR. A previous study of Rustavi, including a brief description of the Nitrogen Products Plant, was reported in RR-GP/DP-1-57 [redacted] dated 2 October 1957. However, additional photo coverage over this area has made possible this more detailed analysis. 25X1

NITROGEN PRODUCTS PLANT

RUSTAVI, USSR

The Rustavi Nitrogen Products Plant, largest chemical plant in the Transcaucasus region, is located near the city of Rustavi, 20 miles southeast of Tbilisi (Tiflis) in the Georgian SSR. This plant was under construction in 1948-49 and was reported to have started operating in the spring of 1955. It has been reported that two types of fertilizers are produced here. The plant is surrounded by a wall about ten feet high, along which there are approximately eight unevenly-spaced guard towers. A transformer substation located south of the plant (see section G, plant layout) probably provides all the power for the plant. There are two main overhead feed pipes entering from the metallurgical works to the southwest (see map of Rustavi). One of these pipes comes from the main power plant and is probably a steam line; the other comes from the by-products plant adjacent to the coke ovens and is probably a coke gas line (see plant pipe lines and photographs). The following description of the apparent functional divisions of the plant was deduced by tracing the overhead feed system.

The pipes of the overhead feed system lead first into the hydrogen and nitrogen gas producing, purification, and storage area (see section A, plant layout), which consists of two possible gas-producing units, three possible gas-purification units, and six gasometers. One possible gas-producing unit, located near the main entrance, is an elongated two-story building with four large vents on the roof. The other one is also an elongated two-story building, with six interconnected vertical tanks and two tall

vents. Nearby are a square cooling tower and one large and one small gasometer. One possible gas purification unit, located in the extreme northwest corner of the plant, has a flat-roofed building with two levels, one of which is about three times higher than the other. Adjacent to this building are six large vertical tanks in three rows of two each served by an overhead crane and a rail spur. The other two possible gas purification units are to the south and along the wall. One consists of five large vertical tanks and a building served by an overhead crane. Adjacent to the vertical tanks is a lattice-type tower which is probably used for the burning of waste gases. The other unit has two vertical tanks and a flat-roofed building with several vents. Adjacent to the possible gas purification units are two large and two small gasometers and one large wooden cone-type cooling tower.

The ammonia plant (see section B, plant layout) has the following facilities: a probable converter and synthesis building, a possible compressor building, and a possible water tower. The probable converter and synthesis building is a large "U"-shaped structure. At the end of one wing is what appears to be two sections of cylindrical tanks. The building is served by an overhead crane and rail spur. A possible water tower is located near this building. The possible compressor building is approximately three stories high with a monitor roof and is served by a rail spur which enters the building.

The nitric acid plant (see section D, plant layout) has the following facilities: an oxidation building with absorption towers and a waste gas burner, cooling towers, a possible ammonia storage building , a possible sulfuric and nitric acid concentrator building, a gasometer, and a storage tank area. The oxidation building is an elongated structure with a higher

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level near the center. Ten granite-type absorption towers are lined up, five on each side of this building, and a lattice-type waste burner is situated near one end. Two wooden cone-type cooling towers separated by a possible pump house are located just east of the oxidation building. Northeast of the absorption towers is a large monitor-roofed building possibly used for the storage of ammonia. Two large storage tanks are adjacent to one side of this building. The possible sulfuric acid and nitric acid concentrator building consists of a large L-shaped structure with three sections of tank-like objects along one side. One section has approximately nine tanks in three rows of three, the second section has six larger tanks in three rows of two, and the third section has nine tanks lined up in single file. The building is served by an overhead crane and a possible rail spur. A gasometer is adjacent to this building. The storage area consists of two buildings and ten tanks, two of which are earth covered and eight of which are encased together.

The fetilizer plant (see section C, plant layout) consists of two granulation towers, a fertilizer storage building, a possible nitric acid storage facility, and a possible ammonium sulfate plant and storage area. A large conveyor system connects the two reinforced concrete granulation towers with the fertilizer-storage building, which has two levels. The conveyor enters at the top of the three-story level, which is probably used for storage. The one-story level is probably used for packaging and shipping fertilizer. Rail spurs serve both sides of this building. A probable conveyor connects the granulation towers with a two-story building to the north. Adjacent to one side of this building are six vertical tanks which are possibly used for nitric acid storage. The possible ammonium sulfate plant and storage facilities consist of two large warehouse-type buildings served by both road and rail facilities.

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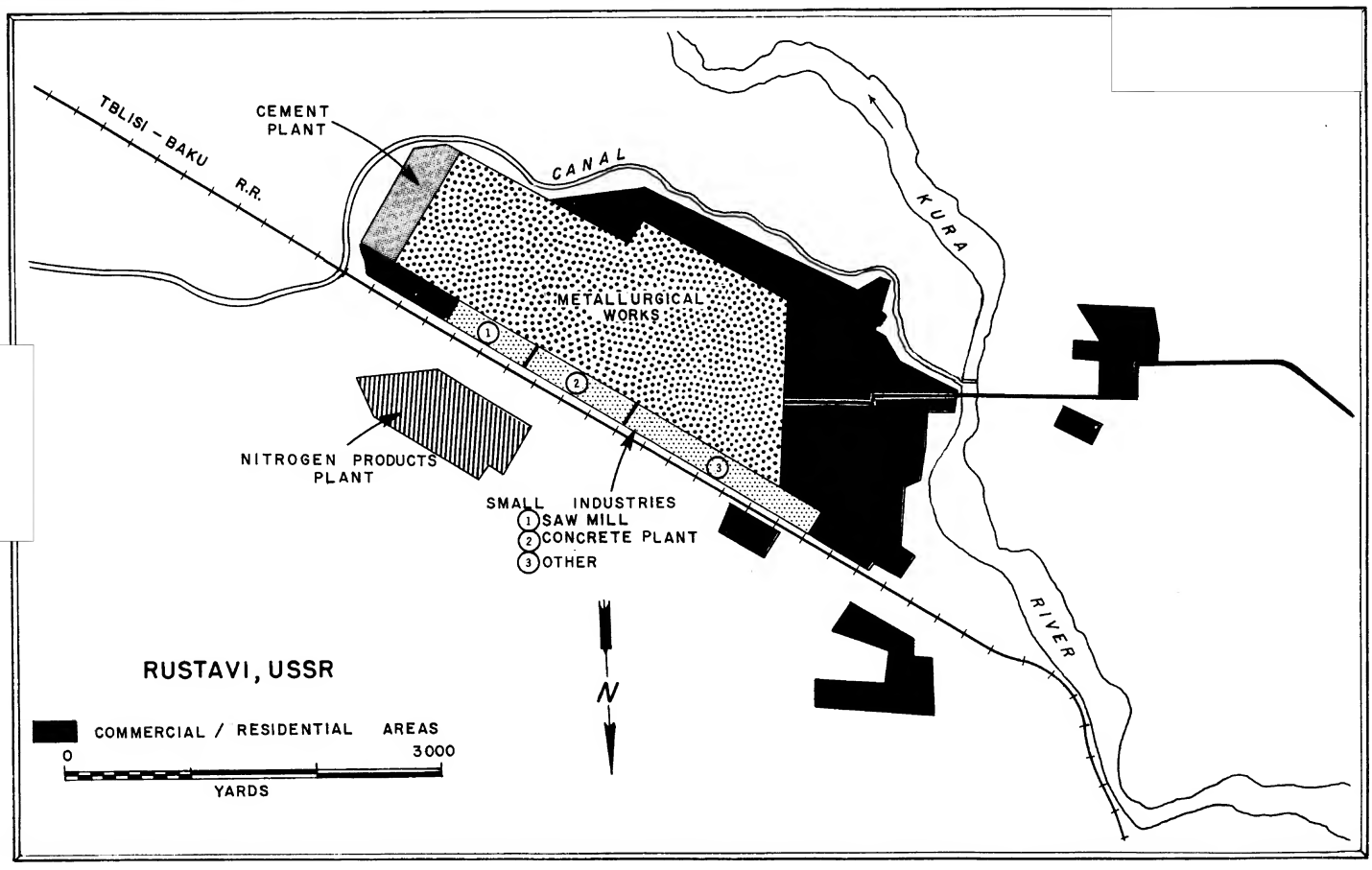
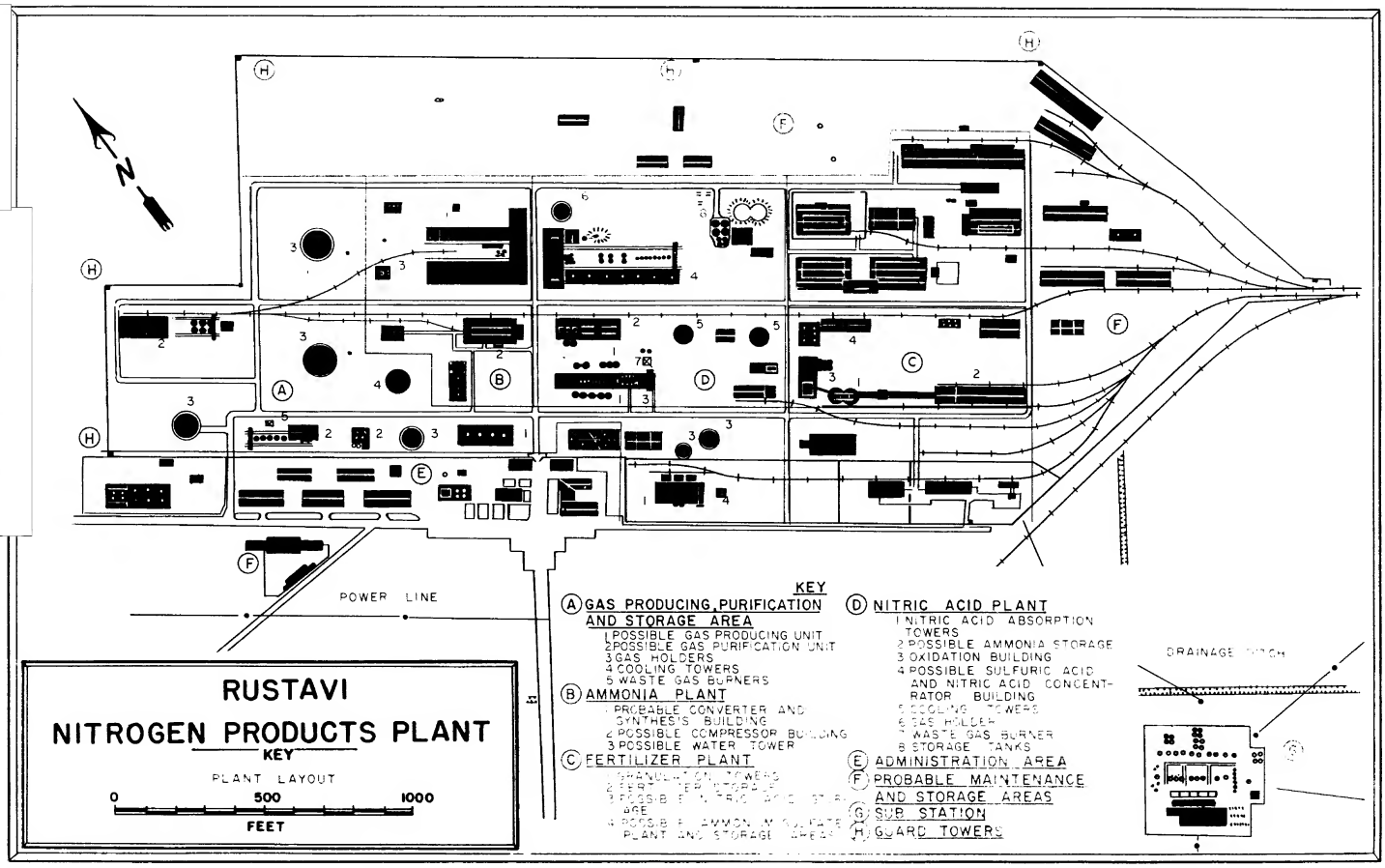
The administration area (see section E, plant layout) includes four two-story hip-roofed buildings and one three-story hip-roofed building. The two-story gable-roofed building just east of the point where the pipeline enters the plant is the firehouse. Behind this building is a tall wooden watch tower. To the northwest are five large structures of which three are two-story gable-roofed buildings possibly used as workers' housing, and two are single-story gable-roofed warehouse-type buildings. In the northwest corner of this area there is a large building possibly used as a laboratory. This rectangular structure has ten vents protruding from a curved roof.

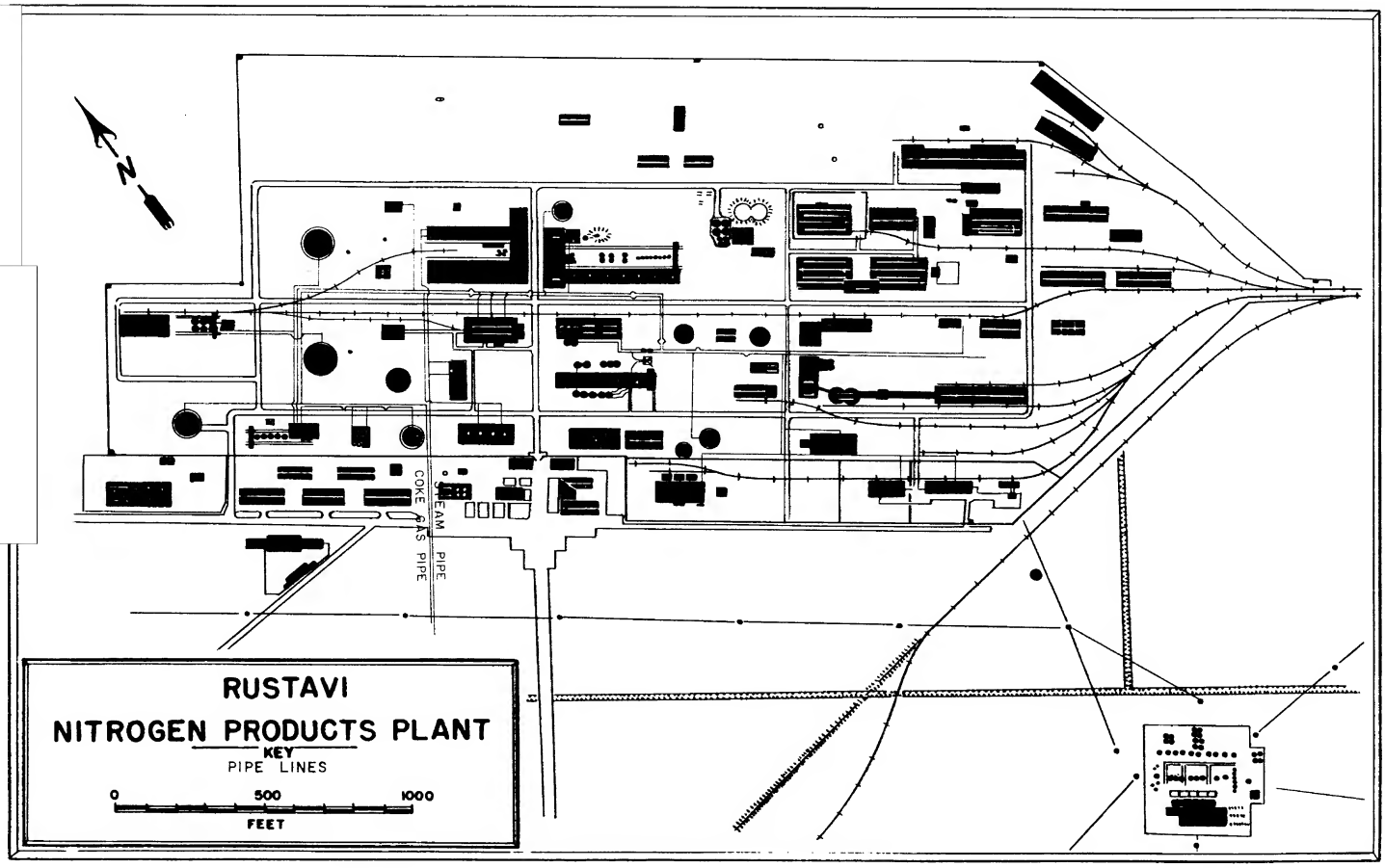
There are several probable maintenance and storage areas (see sections F, plant layout) within the plant and outside the walled area.

Northeast of the fertilizer plant there are five large and several small buildings. Three of the buildings have monitor roofs, another is a warehouse-type building, and the fifth is a large two-story gable-roofed building. Southwest of the fertilizer plant there are three large gable-roofed buildings.

The plant is served by both rail and road facilities. A rail spur from the Tbilisi-Baku line forms a "Y" connection southeast of the plant. The line then enters the plant in a northwesterly direction and then splits into many spurs which in turn serve major plant installations. The road network within the plant forms a rectangular pattern. These as well as the three main roads leading to the plant from the southwest appear to be all-weather roads.







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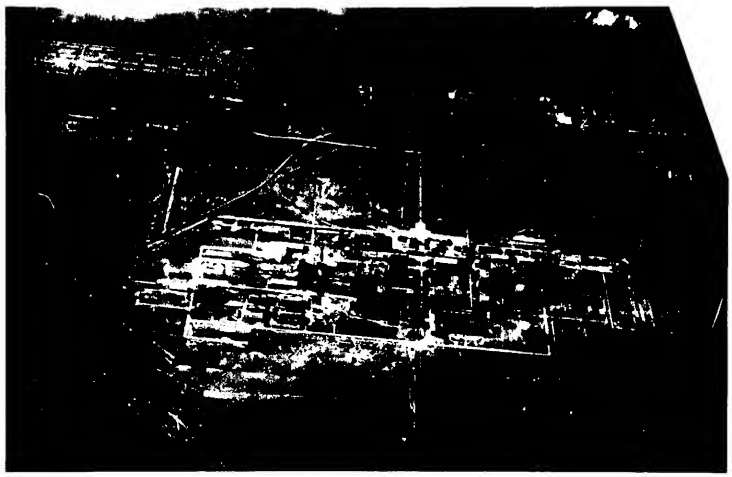

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